

A2 Product Catalog

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9/88

CIRTECH plusRAM memory cards

Back when the **A2 Product Catalog** was nothing but a glimmer in my eyes, the glimmer was (and is still) to offer **Open-Apple** subscribers high-quality Apple II products that aren't generally available in local computer stores. This month we've taken a *giant* step in the direction of the glimmer by forming what bigger companies would call a 'strategic alliance' with the Applied Engineering of Europe, CIRTECH Ltd.

I've mentioned CIRTECH many times in **Open-Apple**, but the company is otherwise almost unknown among U.S. Apple II users. In Europe, however, CIRTECH is famous for its high-quality memory, interface, and CP/M cards. Like Applied Engineering, CIRTECH specializes in products for the Apple II. CIRTECH does all of its own product design (hardware and software), manufacturing, documentation, and shipping from its factory in Galashiels, Scotland.

This month I'll introduce you to CIRTECH's plusRAM family of memory cards. In months to come we'll introduce you to CIRTECH's other yellow (not green) products.

plusRAM PR-1 and PR-16

CIRTECH's two PR cards are standard-slot memory cards like Applied Engineering's RamFactor or Apple's 'Slinky' memory expansion card. This type of card can be used in the II-Plus, IIe, or IIgs. The PR-1 uses standard 256K RAM chips and can be expanded to 1 megabyte. The PR-16 uses standard 1-meg RAM chips and can be expanded to 4 megabytes on one card (with forthcoming 4-meg chips it can be expanded to 16 megabytes).

RAMdisk. Standard-slot memory cards are primarily used two ways—as noiseless, ultra high speed disk drives and as AppleWorks desktop expanders. Unlike Apple's card, but like AE's RamFactor, CIRTECH's PR cards include software that allows you to partition 1 meg and larger cards into several independent RAMdisks. As with RamFactor, only one RAMdisk can be active at a time, but each can be initialized for a different operating system. CIRTECH's cards are automatically recognized by ProDOS, Pascal 1.3, and CIRTECH's own CP/M Plus. With the card you also get support software for DOS 3.3, Pascal 1.1 and 1.2, and CP/M 2.20b (56K) and 2.23 (60K). CIRTECH supports more Apple II operating systems than either Applied Engineering or Apple itself.

AppleWorks. Like all standard-slot memory cards, CIRTECH's PR cards are automatically used by AppleWorks 1.3 and higher for desktop expansion. Again like AE but unlike Apple, CIRTECH includes an AppleWorks enhancement package with its cards. CIRTECH's software does much of what AE's expansion software does, including allowing you to run AppleWorks on an 80-column-equipped Apple II-Plus. Unfortunately, CIRTECH's software isn't compatible with Beagle Bros' Timeout series. However, Timeout provides many of the features of CIRTECH's expansion software—few users actually need both.

Cost. Frankly, the eye-opening feature of CIRTECH's plusRAM cards is their cost. Our prices are up to 35 per cent lower than equivalent cards from AE. CIRTECH's prices are lower because their cards all use a CMOS custom LSI chip. All same-size standard-slot cards from different manufacturers have the same number of RAM and ROM chips on them. But, for example, in addition to these, CIRTECH's PR cards have just two chips. AE's RamFactor has six times as many—12 additional chips. CIRTECH's custom chips reduce manufacturing cost and, by increasing reliability, reduce warranty costs. CIRTECH's average product failure rate is less than 1 per cent.

Cards that use 256K chips:

memory supplied	PR-1 order no	GS-2 order no	\$
256K	PR-1-1	GS-2-1	219
512K	PR-1-2	GS-2-2	279
768K	PR-1-3	GS-2-3	339
1 M	PR-1-4	GS-2-4	399
1.25M	---	GS-2-5	459
1.5 M	---	GS-2-6	519
1.75M	---	GS-2-7	579
2 M	---	GS-2-8	639

plusRAM GS-2 and GS-8

CIRTECH's two GS cards are designed to fit into the memory expansion slot on the Apple IIgs. The GS-2 uses standard 256K chips and can be expanded up to 2 megabytes on one card. The GS-8 uses standard 1-meg chips and can be expanded up to 8 megabytes on one card—the maximum RAM capacity of the IIgs. No other company builds a single card that can expand to 8 megabytes using standard RAM chips.

RAMdisk, AppleWorks, ProDOS 16. IIgs memory cards are used three ways—as RAMdisks, as AppleWorks desktop expanders, and as memory space that can be directly used by ProDOS 16 software. CIRTECH's cards are completely compatible with the Apple memory card standard and will be recognized automatically in all three applications. CIRTECH's AppleWorks' enhancement software is included with its GS cards.

ROMdisks. Both the GS-2 and GS-8 have an expansion connector for a ROMdisk. CIRTECH provides three different expansion cards for this connector. Two of the cards accept ROM or EPROM chips. The ROM-256 has sockets for eight 27256-type ROMs or EPROMs. The ROM-512 has sockets for eight 27512-type chips. With these cards you program your own ROMs, using an EPROM programmer, with any application software or other data you require and plug them in. Your programs are always ready, never changeable, *totally* secure. The third expansion card, STAT-256, uses battery-backed up static RAM chips. The battery is right on the card and will keep your data safe without external power for over two months. No external charger is required—the battery is charged automatically when your computer is on. This card comes with 64K of memory and has enough sockets for 256K.

Cool. Like CIRTECH's PR cards, the GS cards are as much as 35 per cent cheaper than other cards available today. The bigger the card you want, the more you'll save. And because of CIRTECH's custom LSI chips, these cards use very little power and create very little heat. Even with a full 8 megabytes of chips, the GS-8 typically consumes only 268 milliamps.

No need to call. Unlike Applied Engineering's ads, our price list shows this month's exact price for every available size of RAM card CIRTECH makes. No need to call to see whether a particular combination is real or vapor; no need to check this week's RAM prices. The prices shown below are guaranteed through September 30, 1988, and will probably be valid even after that.

Cards that use 1-meg chips:

memory supplied	PR-16 order no	GS-8 order no	\$
1 M	PR-16-1	GS-8-1	499
2 M	PR-16-2	GS-8-2	759
3 M	PR-16-3	GS-8-3	1019
4 M	PR-16-4	GS-8-4	1279
5 M	---	GS-8-5	1539
6 M	---	GS-8-6	1799
7 M	---	GS-8-7	2059
8 M	---	GS-8-8	2319

ROMdisk expansion cards		STAT-256 expansion cards	
(no chips)	ROM-256 \$89	64K	SD-256-1 \$159
(no chips)	ROM-512 \$89	128K	SD-256-2 \$189
		256K	SD-256-3 \$249

Unit pricing:

Buy CIRTECH's base card and stock it with your own chips, if you like. Our 256K RAM prices reflect a charge of \$7.50 per chip, installed and tested.

Unit pricing:

Buy CIRTECH's base card and stock it with your own chips, if you like. Our 1-meg RAM prices reflect a charge of \$32.50 per chip, installed and tested.

StatDisk

CIRTECH's StatDisk is a completely new concept in storage technology. No other company makes anything like it. Software using your computer thinks the StatDisk is a standard-slot memory card like CIRTECH's PR cards, AE's RamFactor, or Apple's 'Slinky' memory expansion card. The StatDisk is every bit as quiet and as fast as any other RAMdisk.

Like magnetic. What makes the StatDisk different from the others is that, like a magnetic disk, what you store on it stays stored after you or the electric company turns off the power. You can actually store software and data on a StatDisk, remove the StatDisk from your computer, ship it halfway around the world, open the shipment, plug the StatDisk into your far away Apple II, and your files will still be there! The

Unbeatable 1-MEGABYTE prices

Cards that use 256K chips:	\$399
Cards that use 1-Meg chips:	\$499
StatDisk (static RAM):	\$699

StatDisk uses low-power static RAMs, rather than the relatively power-hungry dynamic RAMs used by other cards. A small battery built right into the card keeps your data safe for over two months at a time without any external power. And the battery is automatically charged when your computer is on.

RAMdisk, AppleWorks. The StatDisk can be purchased with as little as 128K of RAM and is expandable, using a piggy-back expansion card, to 1 megabyte. It is supplied with all the same partitioning, operating system support, and AppleWorks software as CIRTECH's PR cards.

Instant on reliability. StatDisk (well, that's what we call it, CIRTECH calls it a 'plusDisk') brings a whole new meaning to the concept of ready-when-you-are. Using a StatDisk, you can boot a IIgs into ProDOS 16 before your monitor warms up. All without any worry that a prolonged power outage (or a bad disk) will erase your files. All without extra cords or battery chargers under your desk. Totally powered for over two months by a battery so small it fits right on the card. Someday Mac and IBM users will be able to buy cards like this one. Apple II users can buy theirs today.

StatDisk

memory supplied	StatDisk order no	\$
128K	SD-1	209
256K	SD-2	269
384K	SD-3	329
512K	SD-4	389
640K	SD-5	519
768K	SD-6	579
896K	SD-7	639
1M	SD-8	699

StatDisk piggyback expander	
We've already included this card in the StatDisk prices shown above. This order number is for use only if you want to purchase the board separately	
64K	SD-PIG \$159

Unit pricing:

Buy CIRTECH's base card and stock it with your own chips, if you like. Our 32x8 low-power CMOS static RAM prices are \$15.00 per chip, installed and tested.

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Ordering Information

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3-year subscription	(36 issues)	\$78

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Open-Apple back issues

Open-Apple has been published monthly since January, 1985. Single back issues are \$2 each. We currently have originals of all single back issues available, but supplies for some months are getting tight. We also have bound volumes of back issues available. Each volume holds one year's issues and includes a detailed index for that year's issues.

Open-Apple: Volume 1		
OA-001	\$14.95	Jan 1985—Jan 1986
Open-Apple: Volume 2		
OA-002	\$14.95	Feb 1986—Jan 1987
Open-Apple: Volume 3		
OA-003	\$14.95	Feb 1987—Jan 1988
Full Set Special (every issue ever published)		
FS	\$39.00	Jan 1985—current

New Stuff

Advanced Programming Techniques for the IIgs Toolbox

by Dan Gookin and Morgan Davis

This is a follow-up to the authors' **Mastering the Apple IIgs Toolbox**. The first is a toolbox tutorial; this one is more of a reference and advisor on desktop programming issues in C, Pascal, and 65816 assembly language.

CB-007 \$19.95 1988

Apple IIgs Assembly Language Programming

by Leo J. Scanlon

Unlike other authors, Scanlon approaches the 65816 from the perspective of the Apple Programmer's Workshop. About two-thirds of this book discusses APW macros and assembly language toolbox programming.

BB-001 \$24.95 1987

Posters

Perfect for your computer room or classroom—our posters are 17-1/2 inches by 22-1/2 inches, white stock with black ink. On each poster we've printed an enlarged Rich Tennant cartoon from **Open-Apple**.

Posters ordered together are shipped together in a mailing tube. When you buy several posters they get cheaper quickly. Look through the indicated months in your back issues to see which cartoons are available as posters.

1 poster	\$7	2 posters	\$10	3 posters	\$12
PS-001	Christmas Lizard	from Dec 1985			
PS-002	Genie	from June 1986			
PS-003	User Group	from August 1987			

ModuNET

Build your own network

For a complete description, see our May, June, or July *Product Catalog*.

For Apple IIe Workstation Card, IIgs, ImageWriter II, Mac Plus, SE, II

OE-001 8-pin ModuNET \$34.95

For LaserWriter, Mac 128K, 512K

OE-002 9-pin ModuNET \$34.95

The A2 Library

Beginner's Books

TS-001	Bear: Computer Wimp	(see 8/88)	\$9.95
CB-001	Freiberger: The IIc, Your First Computer	(see 6/88)	\$9.95

Thought-Provoking Books

AW-013	Snyder: In Search of Amazing Thing	(see 6/88)	\$10.95
MH-004	Freiberger: Fire in the Valley:	(see 6/88)	\$11.95
IB-001	Weishaar: Your Best Interest	(see 6/88)	\$9.95

AppleWorks Books

SY-008	Ericson: AppleWorks, Tips and Techs	(see 6/88)	\$19.95
DS-003	disk for this book	(see 8/88)	\$12.00
SY-007	Tymes: Mastering AppleWorks	(see 6/88)	\$19.95
MH-010	Matthews: AppleWorks Made Easy	(see 7/88)	\$18.95
CE-001	Thomas: ClassWorks	(see 8/88)	\$45.00

Science/Electronics Books

TB-001	Engelsher: Interfacing & Digital Exps	(see 6/88)	\$15.50
VS-001	Vernier: Build a Better Mousetrap	(see 7/88)	\$24.95
TB-003	Fellino et al: Science On Your Apple	(see 6/88)	\$14.95
TB-004	Horn: Smart Apples	(see 6/88)	\$12.95

Printers

Technical References

AW-008	Apple: ImageWriter II Technical Reference	\$19.95
AW-025	Apple: ImageWriter LQ Technical Reference	\$22.95

PostScript

AW-007	Adobe: PostScript Lang Tutorial/Cookbook	\$16.95
AW-005	Adobe: PostScript Lang Program Design	\$22.95
AW-009	Adobe: PostScript Lang Reference Manual	\$22.95

Troubleshooting and Repair

HS-004	SAMS Computerfacts: ImageWriter I	\$24.95
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Working with Classic Apples

Applesoft

AW-010	Apple: Applesoft Tutorial (w/disk)	\$29.95
AW-021	Apple: Applesoft Programmer's Reference	\$22.95
AW-015	Dwyer: BASIC and the Personal Computer	\$16.95
MH-002	Poole: II-Plus/IIc User's Guide, 3rd Ed	\$18.95
MH-003	Poole: IIc User's Guide	\$18.95
HS-007	Irwin: Apple Programmer's Handbook	\$22.95

DOS 3.3

TB-007	Weishaar/Kersey: The DOSTalk Scrapbook	\$14.95
DS-001	disk for this book	\$10.00

ProDOS 8

AW-024	Apple: BASIC Programming with ProDOS (w/disk)	\$29.95
AW-023	Apple: ProDOS 8 Tech Ref (w/disk)	\$29.95
QS-001	Worth: Beneath Apple ProDOS	(see 8/88) \$19.95
TB-006	Doms/Weishaar: ProDOS Inside and Out	(see 6/88) \$16.95
DS-002	disk for this book	\$10.00

6502 Assembly Language

AW-012	Finley/Myers: Asm Lang for Applesoft Prgmmer	\$18.95
RW-001	Wagner: Assembly Lines: The Book	(see 6/88) \$19.95
MH-007	Leventhal: 6502 Asmbly Lang Prog.	\$19.95
MH-008	Leventhal: 6502 Subroutines	\$19.95
SY-002	Zaks: Programming the 6502	\$17.95
SY-001	Zaks: Advanced 6502 Programming	\$16.95

Technical References

AW-003	Apple: Apple IIc Technical Reference	\$24.95
AW-004	Apple: Apple IIc Technical Reference	\$24.95
SS-002	Little: Inside the Apple IIc	\$19.95
SS-001	Little: Inside the Apple IIc	\$19.95
SY-003	Campbell: The RS-232 Solution	(see 6/88) \$18.95

Troubleshooting and Repair

HS-001	SAMS Computerfacts: II, II-Plus	\$21.95
HS-002	SAMS Computerfacts: IIc	\$21.95
HS-005	SAMS Computerfacts: IIc	\$39.95
HS-003	SAMS Computerfacts: Disk II	\$21.95
HS-006	Brenner: Apple II Troubleshooting/Repair Guide	\$19.95

Working with the Apple IIgs

Toolbox Programming

AW-011	Apple: Programmer's Intro to IIgs (w/disk)	\$32.95
AW-019	Apple: Apple IIgs Toolbox Reference, Vol 1	\$26.95
AW-006	Apple: Apple IIgs Toolbox Reference, Vol 2	\$26.95
CB-005	Gookin/Davis: Mastering the IIgs Toolbox	\$19.95
CB-007	Gookin/Davis: Adv Prog Tech for IIgs Toolbox	\$19.95

ProDOS 16

AW-020	Apple: ProDOS 16 Reference (w/disk)	\$29.95
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65816 Assembly Language

CB-002	Wagner: IIgs Machine Lang for Beginners	\$19.95
BB-001	Scanlon: Apple IIc Asm Lang Programming	\$24.95
SS-003	Eyes/Lichty: Programming the 65816	\$24.95
MH-005	Fischer: 65816/65802 Asmbly Lang Prgming	\$21.95

Technical References

AW-018	Apple: Technical Introduction to the Apple IIgs	\$9.95
AW-022	Apple: Apple IIgs Firmware Reference	\$24.95
AW-002	Apple: Apple IIgs Hardware Reference	\$24.95
AW-001	Apple: Apple Numerics Reference (new edition)	\$29.95
AW-014	Apple: Human Interface Guidelines	\$14.95
AW-017	Little: Exploring the Apple IIgs	(see 6/88) \$22.95
MH-001	Fischer: Apple IIgs Tech Ref	(see 6/88) \$19.95